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WSI Daily Operating Procedure

I. Purpose:

This document describes the required daily inspection and maintenance of the Whole Sky Imager (WSI) conducted at the Tropical Western Pacific sites. The system contains two parts: the outdoor unit (white box) containing the wide-angle camera, digitizer, and cooling system and an indoor unit (blue box) containing the controller system.

II. Cautions and Hazards:

- Do not rub the dome too hard when cleaning it; the dome is scratched easily.
- Do not use alcohol on the dome.

III. Requirements:

- Lint-free, nonabrasive cloth.
- Distilled water.

IV. Procedure:

A. Outdoor Camera Activity (WHITE Box)

1. Wipe or brush the dome lightly with a lint-free, soft cloth.
2. If water spots, bird droppings, or debris remain on the dome, apply a small amount of distilled water onto the dome to loosen the remaining material.
3. Wipe away any excess water on the dome with the lint-free cloth.
4. Inspect the occulter drive for any debris (dirt, bird droppings, etc.)
5. Clean the occulter drive if necessary.

B. Indoor Console Assembly (BLUE Box)

1. Check the monitor for normal image quality. (This means that the computer acquires images of the sky and displays them on the screen.)
2. Check the monitor image for solar occulter position; ensure that the sun's image is within the occulter boundary.
3. If in doubt of solar occulter alignment, check the occulter at local area noon (LAN). (The support structure should be vertical and the solar image should appear on the occulter at the vertical centerline.)

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4. Check the monitor for normal image cycle; ensure that there are three images of the same scene, but with different light intensities.
5. Check the image for correct annotation, e.g., time/date and filter identification. (If the date is wrong, correct it by following the procedure for changing the date. **Note:** This procedure is not yet complete.)
6. Verify that change indicator lights on the Accessory Control Panel (ACP) change during the grab sequence.
7. Verify that the occulter and system status readouts on the ACP are changing normally.

C. Flag Indicators

1. Check the image screen for flag indicators; if a flag indicator is present, type “s” to check instrument status.
2. If a yellow flag appears (indicating the WSI is not receiving the time from the GPS), check the GPS box for error messages.
3. If the GPS error message indicates that power needs to be cycled, follow this GPS Power Cycle Procedure:
 - a) Turn OFF power by pressing the RED button on the front of the GPS until the display goes blank. (This takes about 5 seconds.)
 - b) Turn ON the power by pressing the RED button until the display becomes active. (After the display appears, the unit takes several minutes to initialize. After the GPS powers up, the time rolls over to the next day (GMT) and the YELLOW flag disappears.)

V. References:

1. “Field Unit 9 Alpha Test, Daily, Weekly, and Monthly Check List, and Unput File,” MPL Memo AV99-037t.

VI. Attachments:

None.